Upgrading Prime Optical

Note

You cannot perform a full upgrade from an earlier Cisco Transport Manager (CTM) or Prime Optical release.

This section describes how to use the Cisco Prime Optical 10.0 Data Migrator wizard to migrate selected data from CTM R8.5 or later to Prime Optical 10.0. With the wizard, you can migrate a subset of an existing database to a newly installed Prime Optical 10.0 server.

The following are the benefits and limitations of the Data Migrator wizard:

- Reduces the migration time and provides a safer, easier migration.
- Allows you to migrate the following data:
  - Core tables and database pruning policy information.
  - Service states and configurations, including CORBA and SNMP gateway states and configurations.
  - Users, user profile information, and CORBA and SNMP gateway users.
  - (Optional) Managed NEs, NE logical grouping information, network partition information, security information to authenticate to nodes, Domain Explorer and Subnetwork Explorer map coordinates, basic NE service configuration, and PM service states.
  - (Optional) Manual links and Layer 1 circuits with user data.
  - (Optional) VLAN customer-related information, Layer 2 topologies, and QoS templates.
- Does not migrate NE configuration backup (memory backup) files. You must manually back up these files. The files are located under the installation directory/admin.
- Does not migrate PM data.
- Does not migrate alarm data.

As a root user, install and run the tool on the same server where the Prime Optical database is installed. The tool prepares a newly installed Prime Optical 10.0 server to use the same data as the earlier server used.

Note

In the bottom right corner of the wizard screens, the memory footprint progress bar shows the rate of available memory compared to the allocated memory; for example: “Available: x MB of y MB.” The “Request garbage collection” tool lets you free up memory when the amount of data is greater than what is expected, and the running task is taking too long to complete.
Overview of the Upgrade Process Using the Data Migrator Wizard

Using the Data Migrator wizard to upgrade from CTM R8.5, R9.0, R9.1, R9.2, Prime Optical 9.3, 9.3.1, 9.5, 9.6, 9.6.3, or 9.8 to Prime Optical 10.0 involves the following process:

1. (Optional) Perform a full backup or export of your earlier database so that it can be restored if there are any upgrade issues.

2. Install the Data Migrator wizard on any server in the same network as the Prime Optical server. (See Installing the Data Migrator Wizard, page 6-2.)

3. Use the Data Migrator wizard to export a subset of database data from the CTM R8.5, R9.0, R9.1, R9.2, or Prime Optical 9.3, 9.3.1, 9.5, 9.6, 9.6.3, or 9.8 server that you want to upgrade. (See Using the Data Migrator Wizard to Export the Database, page 6-3.)

4. Uninstall the previous CTM or Prime Optical release.

5. Install Prime Optical 10.0 from scratch. (See Chapter 5, “Installing Prime Optical.”)

6. Use the Data Migrator wizard to import selected database data to the new Prime Optical 10.0 database. (See Using the Data Migrator Wizard to Import Data, page 6-5.)

Installing the Data Migrator Wizard

As a root user, do the following:

**Step 1** Insert the Cisco Prime Optical Server installation DVD into the DVD drive.

**Step 2** Enter the following commands to mount the ISO image if you have the Cisco Prime Optical server installation ISO image instead of the DVD media:

```
mkdir /mnt
PRIME_OPTICAL_10_0_LNX.iso /mnt
```

**Step 3** Navigate to the DataMigrator directory and copy the Data Migrator tar file to a local folder.

**Step 4** Enter the following commands to extract the .tar archive contents:

```
cd local-folder/DataMigrator
tar xvf DataMigrator*.tar
```
Using the Data Migrator Wizard to Export the Database

Step 1 Enter the following command to verify whether the Prime Optical server is running:

```
opticalctl status
```

If the Prime Optical server is running, enter the following command to stop it:

```
opticalctl stop
```

Step 2 Navigate to the installation folder (for example, /tmp/DataMigrator/bin) and run the DataMigrator.sh executable.

Step 3 The Data Migrator wizard opens. Do the following:

a. (Optional) To view the supported versions that are available for export, click **Show Migration Matrix**. The Supported Migration Paths dialog box opens, listing the valid migration versions. After reviewing the supported migration paths, click **Close**.

b. From the Migration Mode drop-down list, choose **Export**.

c. Click **OK**.

Note For Embedded database, the Oracle SID is CTM for 8.5 through 9.6.3, and optdb for 9.8 and 10.0.

Step 4 In the Database Connection screen, specify details of the database from which you want to export data. Do the following:

a. If the release from which you want to export data has an embedded database, check the **Server uses an embedded database** check box.

   When the **Server uses an embedded database** check box is checked:
   - You cannot edit any fields in the Connection Properties area except for the instance name.
   - The hostname is set to the current machine’s name.
The port number is set to 1521, which is the default for an embedded database and cannot be changed.

- The Username and Password fields are cleared. After you click the Connect button, the Username and Password fields are filled in if the Data Migrator wizard can find those properties in the CTMServer.cfg configuration file.

b. If the release from which you want to export data does not use an embedded database, verify that the Server uses an embedded database check box is unchecked.

When the Server uses an embedded database check box is unchecked:
- You can edit all fields in the Connection Properties area.
- The Username and Password fields are restored to their default values.
- Enter the hostname in the Hostname field.
- Enter the port number in the Port Number field. The default port number is 1521.
- Enter values in the remaining fields, or accept the defaults.

c. Click Connect. The progress bar at the bottom of the screen tracks the progress of the operation. (To cancel the operation, click the X icon to the right of the progress bar.)

After the connection succeeds, the Connection State area shows the state as “Connected.” The version, size, and installed modules are retrieved from the database and displayed.

d. Click Next.

Step 5 If you receive the following prompt, shut down the server and reconnect to the database, then click OK:

The server is still running on the selected server. The connection to the database will be closed. Before continuing, you must shut down the server and then reconnect to the database.

Caution It is important that you shut down the server and reconnect to the database before proceeding to the next step.

Step 6 In the Open dialog box, select the directory and the .zip archive where you want to store the exported data, then click Open.

Step 7 The File Selection screen displays the selected archive file and the estimated time to complete the export process. Click Next.

Note Before clicking Next, based on the estimated time that the process will take, you can either decide to continue, or you can go back using the Back button and modify your selections appropriately.

Step 8 In the Export screen, click Start. All data categories are exported and compressed.

A progress bar at the bottom-right corner of the screen tracks the progress of the export. You can quit exporting at any time by clicking the X button next to the progress bar.

The table summarizes the results of the export. For each data category, the table lists the exported database tables, the number of rows exported, and the length of time the export took.

Step 9 Click Exit.

Step 10 At the prompt “The operation is complete,” click OK.
Using the Data Migrator Wizard to Import Data

**Note**
You can import data only on a newly installed Prime Optical server. You cannot import data on a Prime Optical server if its database has already been populated with users, Network Elements and so on.

**Step 1**
Enter the following command to verify whether the server is running:
```
opticalctl status
```
If the server is running, enter the following command to stop it:
```
opticalctl stop
```

**Step 2**
Navigate to the installation folder (for example, /tmp/DataMigrator/bin) and run the DataMigrator.sh executable.

**Step 3**
The Data Migrator wizard opens. Do the following:

a. (Optional) To view the supported versions that are available for import, click **Show Migration Matrix**. The Supported Migration Paths dialog box opens, listing the valid migration versions. After reviewing the supported migration paths, click **Close**.

b. From the Migration Mode drop-down list, choose **Import**.

c. Click **OK**.

**Step 4**
In the Open dialog box, select the .zip archive file to import, then click **Open**.

**Step 5**
In the Archive Summary screen, review the details of the archive file to import. To select a different archive file to import, click the browse (…) button. The table summary shows the database tables that will be imported, including the data category and the number of rows in each table. Click **Next**.

**Step 6**
In the Categories screen, do the following:

a. Select the categories to import. General, Services, and Users are mandatory categories; the NEs, L1 and L2 topologies are optional.

b. (Optional) In the General category, click the **Setup** link to open the General Import Options dialog box. If desired, check the **Import pruning options** check box, then click **Apply**. The dialog box closes.

c. (Optional) In the NEs category, click the **Setup** link to open the NE Import Options dialog box and specify additional setup options for the import. The dialog box has the following tabs:
   - **NE Services**—Lets you tune the NE services of the target server after the import.
   - **NEs**—Lets you change the NE state and disable automatic subnetwork grouping. (Automatic subnetwork grouping slows down the initial discovery of the new server.)
   - **Miscellaneous**—Lets you customize the import of user maps and equipment inventory notes.

After making your selections in the NE Import Options dialog box, click **Apply**. The dialog box closes.

d. Click **Next**.

**Step 7**
In the Database Connection screen, specify details of the database to which you want to import data. Do the following:

a. If the release to which you want to import data has an embedded database, check the **Server uses an embedded database** check box.
When the **Server uses an embedded database** check box is checked:

- You cannot edit any fields in the Connection Properties area except for the hostname and the instance name.
- The hostname is set to the current machine’s name.
- The port number is set to 1521, which is the default for an embedded database and cannot be changed.
- The Username and Password fields are cleared. After you click the Connect button, the Username and Password fields are filled in if the Data Migrator wizard can find those properties in the CTMServer.cfg configuration file.

**Note**

For Embedded database, the default Oracle SID is CTM for 8.5 through 9.6.3, and optdb for 9.8 and 10.0

b. If the release to which you want to import data does *not* use an embedded database, verify that the **Server uses an embedded database** check box is unchecked.

When the **Server uses an embedded database** check box is unchecked:

- You can edit all fields in the Connection Properties area.
- The Username and Password fields are restored to their default values.
- Enter the hostname in the Hostname field.
- Enter the port number in the Port Number field. The default port number is 1521.
- Enter values in the remaining fields, or accept the defaults.

c. Click **Connect**. The progress bar at the bottom of the screen tracks the progress of the operation. (To cancel the operation, click the **X** icon to the right of the progress bar.)

After the connection succeeds, the Connection State area shows the state as “Connected.” The version, size, and installed modules are retrieved from the database and displayed.

d. Click **Next**.

**Step 8**

If you receive the following prompt, shut down the server and reconnect to the database, then click **OK**:

The server is still running on the selected server. The connection to the database will be closed. Before continuing, you must shut down the server and then reconnect to the database.

**Caution**

It is important that you shut down the server and reconnect to the database before proceeding to the next step.

**Step 9**

In the Validation screen, do the following:

a. Click the **Start** button to validate the size, installed modules, and data on the selected destination server. The Result field shows whether the validation succeeded (Allowed) or failed (Impossible).

The following server sizes produce the following results:

<table>
<thead>
<tr>
<th>Original Server Size</th>
<th>Target Server Size</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>Small</td>
<td>Allowed</td>
</tr>
<tr>
<td>Small</td>
<td>Medium</td>
<td>Allowed</td>
</tr>
</tbody>
</table>
b. In the Data Validation area > Details column, click the Details link to see why a particular table could not be imported. At the following prompt, click OK:

Table-name must be empty; it contains x row(s) instead.

Note To avoid this error, click Back, return to the Validation screen, and select a different server that has a new Prime Optical 10.0 installation.

c. Click Next.

Step 10 In the Import screen, click the Start button to import the data to the target database.

Step 11 The confirmation popup reminds you that if you have not done so already, you should run the export_full_db.sh script to make a backup copy of your current data before proceeding. (Without a backup copy of your data, you would need to completely reinstall the Prime Optical server if problems were to occur.) Click Yes at the following prompt:

This action will write the selected data to the target database.
Make a copy of the current data using the export_full_db.sh tool.

Select Yes to proceed or No to cancel the operation.

Step 12 A progress bar tracks the progress of the import. (To cancel the operation, click the X icon to the right of the progress bar.)

The table summarizes the results of the import. For each data category, the table lists the imported database tables, the result of the housekeeping phase (purging old data to make room for the new data), the result of the data migration phase, and the length of time the import took.
Uninstalling the Data Migrator Wizard

To uninstall the Data Migrator wizard, delete the folder where you installed the wizard. The default folder is $HOME/DataMigrator.

Caution

If a database table was not imported, click the Details link to show the reason for the failure. If errors occurred during the import, use the import_full_db.sh script to reimport the Prime Optical database. See the Cisco Prime Optical user guide section “Restoring the Prime Optical Database from the Previous Backup.”

Step 13

Click Exit.

Note

Due to the change in the CPO 9.8 password encryption algorithm, all user passwords are reset to Ctm123! (the default password) after the import, in the following cases:

• Data are exported from CTM or Prime Optical 9.6.3 or earlier release, and imported on Prime Optical 9.8.
• Data are exported from CTM or Prime Optical 9.6.3 or earlier release, and imported on Prime Optical 10.0.

You will be prompted to reset your password during the first login. You do not need to reset the password if the data is exported from Prime Optical 9.8 and imported in Prime Optical 10.0.